

What is claimed is:

1 1. A lithium secondary battery comprising:  
2 a case;  
3 an internal electrode body positioned inside said case, said internal electrode body  
4 comprising at least one positive electrode, at least one negative electrode and at least one  
5 separator interposed between said positive electrode and said negative electrode, said positive  
6 electrode and said negative electrode being electrically insulated from each other;  
7 at least one electrolyte contained inside said case;  
8 a first terminal electrically connected to said negative electrode;  
9 a second terminal electrically connected to said positive electrode; and  
10 at least one insulator positioned between said case and at least one of said first and  
11 second terminals, said insulator comprising ethylene-propylene rubber.

1 2. A lithium secondary battery as recited in claim 1, wherein said insulator has a  
2 surface hardness of from 30 (durometer A) to 60 (durometer D).

1 3. A lithium secondary battery as recited in claim 1, wherein said case comprises a  
2 body member and at least a first end cap, said first end cap being positioned at a first end of  
3 said body member, said insulator being positioned between said first terminal and said first  
4 end cap.

1 4. A lithium secondary battery as recited in claim 3, wherein said body member is  
2 generally cylindrical.

1 5. A lithium secondary battery as recited in claim 3, wherein said body member has a  
2 first crimped portion in which said first end cap is clamped.

1 6. A lithium secondary battery as recited in claim 1, wherein said case comprises a  
2 body member, a first end cap and a second end cap, said first end cap being positioned at a  
3 first end of said body member, said second end cap being positioned at a second end of said

1 body member, said internal electrode body being positioned between said first and second end  
2 caps, said insulator being positioned between one of said first and second terminals and an  
3 adjacent one of said first and second end caps.

2 7. A lithium secondary battery as recited in claim 6, wherein said body member is  
generally cylindrical.

2 8. A lithium secondary battery as recited in claim 6, wherein said body member has a  
2 first crimped portion in which said first end cap is clamped, and a second crimped portion in  
3 which said second end cap is clamped.

1 9. A lithium secondary battery as recited in claim 6, wherein said at least one insulator  
2 is positioned between said first end cap and said first terminal, and a second insulator is  
3 positioned between said second end cap and said second terminal.

1 10. A lithium secondary battery as recited in claim 1, wherein said insulator material  
2 has a volume resistivity of at least  $10^{10} \Omega\text{-cm}$ .

1 11. A lithium secondary battery comprising:  
2 a body member;  
3 an internal electrode body positioned inside said body member, said internal electrode  
4 body comprising at least one positive electrode, at least one negative electrode and at least  
5 one separator interposed between said positive electrode and said negative electrode, said  
6 positive electrode and said negative electrode being electrically insulated from each other;  
7 at least one electrolyte contained inside said body member;  
8 a first terminal electrically connected to said negative electrode;  
9 a second terminal electrically connected to said positive electrode;  
10 at least one end cap; and  
11 at least one insulator positioned between said body member and said at least one end  
12 cap, said insulator comprising ethylene-propylene rubber.

1 12. A lithium secondary battery as recited in claim 11, wherein said body member is  
2 generally cylindrical and said at least one end cap is positioned at a first end of said body  
3 member.

1 13. A lithium secondary battery as recited in claim 12, wherein said body member has  
2 a first crimped portion in which said first end cap is clamped.

1 14. A lithium secondary battery as recited in claim 11, wherein said at least one end  
2 cap is positioned at a first end of said body member, said battery further comprising a second  
3 end cap positioned at a second end of said body member, said internal electrode body being  
4 positioned between said first end cap and said second end cap.

1 15. A lithium secondary battery as recited in claim 14, wherein said body member is  
2 generally cylindrical.

1 16. A lithium secondary battery as recited in claim 14, further comprising a second  
2 insulator positioned between said second end cap and said body member, said second  
3 insulator comprising ethylene-propylene rubber.

1 17. A lithium secondary battery as recited in claim 14, wherein said body member has  
2 a first crimped portion in which said first end cap is clamped, and a second crimped portion  
3 in which said second end cap is clamped.

1 18. A lithium secondary battery as recited in claim 11, wherein said insulator material  
2 has a volume resistivity of at least  $10^{10} \Omega\text{-cm}$ .

1 19. A lithium secondary battery as recited in claim 11, wherein said insulator has a  
2 surface hardness of from 30 (durometer A) to 60 (durometer D).